

REMARKS

The Office Action dated May 16, 2006, and the patents cited therein have been carefully reviewed, and in view of the above changes and following remarks reconsideration and allowance of all the claims pending in the application are respectfully requested.

The Amendments To The Claims

Claims 1, 7, 10, 15 and 20 have been amended to improve their form in accordance with U.S. patent law. In particular, each of claims 1, 7, 10, 15 and 20 have been amended to clarify the term “data record write” and the term “log record write,” and to clarify the relationship between a log record write and a data record write. According to the amendments, each data record write contains modifications to a page of the database and each log record write contains information relating to modifications to the page of the database for a corresponding data record write. Support for this amendment can be found throughout the specification, for example, in at least paragraphs 4 and 15 of the originally filed patent application.

Additionally, Applicant has renumbered originally numbered claim 26 to be claim 25 so that the claim is numbered consecutively beginning with the number next to the highest numbered claims previously presented. Accordingly, Applicant will refer to originally numbered claim 26 as claim 25.

The Objection To The Claims

The numbering of the claims is not in accordance with 37 C.F.R. § 1.125, which requires the original numbering of the claims to be preserved throughout the prosecution.

Applicant has amended originally numbered claim 26 has been renumbered to be claim 25 so that the claim is numbered consecutively beginning with the number next to the highest numbered claims previously presented.

Consequently, Applicant respectfully requests that the Examiner withdraw this objection.

The Rejection Under 35 U.S.C. § 112, Second Paragraph

Claims 1-24 and 26 stand rejected under 35 U.S.C. § 112, second paragraph, as indefinite for failing to particularly point out and distinctly claim the subject matter regarded as the invention.

Claims 1, 7, 10, 15 and 20 have been amended to improve their form in accordance with U.S. patent law. In particular, each of claims 1, 7, 10, 15 and 20 have been amended to clarify the term “data record write” and the term “log record write,” and to clarify the relationship between a log record write and a data record write. According to the amendments, each data record write contains modifications to a page of the database and each log record write contains information relating to modifications to the page of the database for a corresponding data record write.

By the above-described amendments to claims 1, 7, 10, 15 and 20, the respective forms of dependent claims 2-6, 8, 9, 11-14, 16-19, 21-24 and newly numbered claim 25 have been improved in accordance with U.S. patent law.

Consequently, Applicant respectfully requests that the Examiner withdraw this rejection.

The Rejection Under 35 U.S.C. § 103(a) Over Yanai In View of Shomler

Claims 1-24 and 26 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Yanai et al. (Yanai), U.S. Patent No. 6,502,205 B1, in view of Shomler, U.S. Patent No. 5,623,599.

Applicant has renumbered originally filed claim 26 to be claim 25. Accordingly, Applicant will refer to originally numbered claim 26 as claim 25.

Applicant respectfully submits that the present invention according to any of claims 1-25 is patentable over Yanai in view of Shomler. Applicant respectfully submits that even if the applied patents are properly combinable, the method and system resulting from the combination of Yanai and Shomler is not the present invention.

Regarding claim 1, neither Yanai nor Shomler disclose or suggest a method that includes asynchronously remotely copying each respective log record write from the primary site to the remote site, receiving an acknowledgement at the primary site, such that the claimed

acknowledgement corresponds to a log record write that has been completed at the remote site, and asynchronously remotely copying each data record write having a sequential identification that is prior to or equal to the sequential identification of the log record write corresponding to the received acknowledgement.

The Examiner admits that “Yanai is silent with respect to asynchronously remotely copying each respective log record write from the primary site to the remote site; receiving an acknowledgement at the primary site, the acknowledgement corresponding to a log record write that has been completed at the remote site; and asynchronously remotely copying each data record write having a sequential identification that is prior to or equal to the sequential identification of the log record write corresponding to the received acknowledgement.” (See Office Action date May 16, 2006, page 3, line 19, through page 4, line 3.)

Shomler discloses a method for an asynchronous remote data copy that utilizes a synchronizing marker. According to Shomler, a copy process 16' creates a marker message token in response to a marker request event. (See Shomler, column 9, lines 21-28.) Copy process 16' sends the marker message token to a secondary subsystem 18', which records the message marker token in a control info log and a pending write queue. (See Shomler, column 9, lines 26-32.) When all of the data up to the point of the marker in the pending write queue has been secured, either in the control info log or on secondary-copy DASD, a secondary copy process, identified as “Data Mover” in the figures, creates an acknowledgement message referencing the specific marker token and returns that message to the primary copy process. (See Shomler, column 9, lines 33-37.)

Thus, Shomler does not receive an acknowledgement at the primary site, such that the claimed acknowledgement corresponds to a log record write that has been completed at the remote site. Instead, Shomler receives an acknowledgement at the primary site for when all of the data up to the point of the marker in the pending write queue has been secured. Moreover, Shomler does not suggest receiving an acknowledgement at the primary site, such that the claimed acknowledgement corresponds to a log record write that has been completed at the remote site.

Because Shomler does not disclose or suggest receiving an acknowledgement at the primary site, such that the claimed acknowledgement corresponds to a log record write that has been completed at the remote site, Shomler cannot disclose or suggest asynchronously remotely copying each data record write having a sequential identification that is prior to or equal to the sequential identification of the log record write corresponding to the claimed received acknowledgement.

Thus, Applicant respectfully submits that claim 1 is allowable over Yanai in view of Shomler. It follows that claims 2-6, which each incorporate the limitations of claim 1, are allowable over Yanai in view of Shomler for at least the same reasons that claim 1 is considered allowable.

Regarding claim 7, Applicant respectfully submits that neither Yanai nor Shomler disclose or suggest a method including sending an acknowledgement from the remote site to the primary site when the claimed received log record write is complete, asynchronously receiving a data record write at the remote site from the primary site, such that each received data record write has a sequential identification that is prior to or equal to the sequential identification of the log record write corresponding to the received acknowledgement, and storing the received data record write. As demonstrated above, the Examiner admits that Yanai is silent in this regard. Further, as demonstrated above, Shomler receives an acknowledgement at the primary site for when all of the data up to the point of the marker in the pending write queue has been secured.

Thus, claim 7 is allowable over Yanai in view of Shomler. It follows that claims 8 and 9, which incorporate the limitations of claim 7, are each allowable over Yanai in view of Shomler for at least the same reasons that claim 7 is considered allowable.

Regarding claim 10, Applicants respectfully submit that neither Yanai nor Shomler disclose or suggest a storage system comprising a primary site and a remote site, such that the remote site sends to the primary site an acknowledgement corresponding to a log record write that has been completed at the remote site, and the primary site asynchronously remotely copies to the remote site each data record write having a sequential identification that is prior to or equal to the sequential identification of the log record write corresponding to the received

acknowledgement. As demonstrated above, the Examiner admits that Yanai is silent in this regard. Further, as demonstrated above, Shomler receives an acknowledgement at the primary site for when all of the data up to the point of the marker in the pending write queue has been secured.

Thus, claim 10 is allowable over Yanai in view of Shomler. It follows that claims 11-14, which each incorporate the limitations of claim 10, are each allowable over Yanai in view of Shomler for at least the same reasons that claim 10 is considered allowable.

Regarding claim 15, Applicant respectfully submits that neither Yanai nor Shomler disclose or suggest a primary site of a distributed storage system comprising a controller that receives an acknowledgement corresponding to a log record write that has been completed at a remote site and, in response, asynchronously remotely copies to the remote site each data record write having a sequential identification that is prior to or equal to the sequential identification of the log record write corresponding to the claimed received acknowledgement. As demonstrated above, the Examiner admits that Yanai is silent in this regard. Further, as demonstrated above, Shomler receives an acknowledgement at the primary site for when all of the data up to the point of the marker in the pending write queue has been secured.

Thus, claim 15 is allowable over Yanai in view of Shomler. It follows that claims 16-19, which each incorporate the limitations of claim 16, are each allowable over Yanai in view of Shomler for at least the same reasons that claim 15 is considered allowable.

Regarding claim 20, Applicant respectfully submits that neither Yanai nor Shomler disclose or suggest a remote site of a distributed storage system that comprises a controller that asynchronously receives a log record write from a primary site, such that each respective log record received at the remote site has an associated sequential identification and a corresponding data record write, stores the received log record write in the storage system and sends an acknowledgement from the remote site to the primary site when the received log record write is complete. As demonstrated above, the Examiner admits that Yanai is silent in this regard. Further, as demonstrated above, Shomler receives an acknowledgement at the primary site for when all of the data up to the point of the marker in the pending write queue has been secured.

Thus, claim 20 is allowable over Yanai in view of Shomler. It follows that claims 21-25, which each incorporate the limitations of claim 20, are each allowable over Yanai in view of Shomler for at least the same reasons that claim 20 is considered allowable.

Consequently, Applicant respectfully requests that the Examiner withdraw this rejection and allow claims 1-25.

CONCLUSION

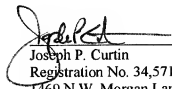
In view of the above amendments and arguments, it is urged that the present application is now in condition for allowance. Should the Examiner find that a telephonic or personal interview would expedite passage to issue of the present application, the Examiner is encouraged to contact the undersigned attorney at the telephone number indicated below.

A general authorization under 37 C.F.R. § 1.25(b), second sentence, is hereby given to credit or debit Deposit Account No. 09-0441 for the instant filing and for any other fees during the pendency of this application under 37 C.F.R. §§ 1.16, 1.17 and 1.18.

It is requested that this application be passed to issue with claims 1-25.

Respectfully submitted,

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